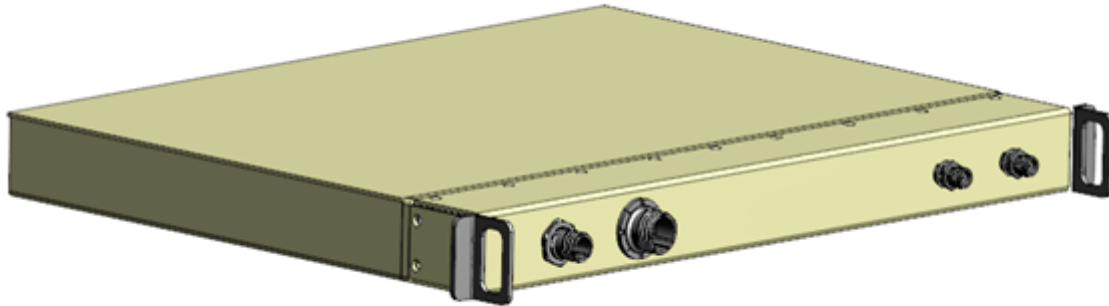


# XT-600+

Dual-antenna Multi-frequency GNSS Heading Receiver with IRNSS



Xtragen Technologies  
Private Limited



Automation



Machine Control



UAV



Robotics

XT-600+ is a multi-frequency multi-constellation GNSS receiver featuring top positioning performance with flexibility to be used either as a base station or a rover receiver. In dual antenna mode it provides heading & pitch or heading & roll information on top of reliable and accurate positioning.

## KEY FEATURES

- ▶ Flexibility of use and easy-to-integrate
- ▶ Best-in-class SWaP (Size, Weight and Power)
- ▶ AIM+ industry-leading anti-jamming, anti-spoofing technology
- ▶ OSNMA Support
- ▶ Full-constellation, multi-frequency satellite tracking
- ▶ Sub-degree GNSS heading & pitch or heading & roll
- ▶ High update rate with low latency

## BENEFITS

### State of the art with flexibility of use

The XT-600+ is a state-of-the-art GNSS receiver using multi-constellation GNSS technology for maximal positioning availability and reliability in challenging conditions. It can be used as a base station or a rover receiver in single or dual antenna configuration. In dual antenna mode GNSS heading provides unmatched performance in both static and dynamic conditions removing the reliance on vehicle dynamics or magnetic sensors. Such a versatile receiver allows integrators to keep a single item in stock which can be used in a multitude of applications Like GNSS based North Alignment and Heading, Roll and Pitch measurement of ground and flying objects.

### Ultra-low power design

The XT-600+ provides RTK positioning at the lowest power consumption of any comparable device on the market. This means longer operation on a single battery charge, smaller batteries and greater usability.

### Easy-to-integrate

The XT-600+ comes with fully documented interfaces, commands and data messages. The included RxTools software allows receiver configuration and monitoring as well as data logging and analysis. An SDK is provided, which allows integrators to create professional custom post-processing applications. XT-600+ is compatible with its SDK library for PPK (Post-processed kinematic) offline processing.

## FEATURES

### GNSS signals

544 Hardware channels for simultaneous tracking of most visible signals:

- ▶ GPS: L1 C/A, L1C, L2C, L2 P(Y), L5
- ▶ GLONASS: L1 C/A, L2C/A, L3, L2P
- ▶ BeiDou: B1I, B1C, B2a, B2b, B2I, B3I
- ▶ Galileo: E1, E5a, E5b, E6
- ▶ QZSS: L1 C/A, L1 C/B, L2C, L5
- ▶ NavIC: L5
- ▶ SBAS: EGNOS, WAAS, GAGAN, MSAS, SDCM

### GNSS+ technologies

- ▶ **AIM+** industry leading anti-jamming, anti-spoofing interference monitoring & mitigation technology
  - ▶ **IONO+** advanced scintillation mitigation
  - ▶ **APME+** a posteriori multipath estimator for code and phase multipath mitigation
  - ▶ **LOCK+** superior tracking robustness under heavy mechanical shocks or vibrations
  - ▶ **RAIM+** (Receiver Autonomous Integrity Monitoring)
- OSNMA Support

### Formats

NMEA 0183, v3.01, v4.0  
RTCM v2.x, v3.x (MSM messages included)  
CMR v2.0 and CMR+ (CMR+ input only)

### Connectivity to meet MIL-STD

- 1 High Speed USB device port
- 1 RJ45 Ethernet port (TCP/IP, UDP, LAN 10/100 Mbps)
- 1 RS422 port
- 1 RS232 Port
- 3 Pin Ruggedized Power port
- 1 PPS (Differential output - RS422) with NTP & PTP support
- General purpose output NTRIP (server, client, caster) FTP server, FTP push, SFTP

## PERFORMANCE

### RTK performance

|                     |                  |
|---------------------|------------------|
| Horizontal accuracy | 0.6 cm + 0.5 ppm |
| Vertical accuracy   | 1 cm + 1 ppm     |
| Initialisation      | 7 s              |

### GNSS attitude accuracy

|                    |         |            |
|--------------------|---------|------------|
| Antenna separation | Heading | Pitch/Roll |
| 1 m                | 0.15°   | 0.25°      |
| 5 m                | 0.03°   | 0.05°      |

### Position accuracy

|            |            |          |
|------------|------------|----------|
|            | Horizontal | Vertical |
| Standalone | 1.2 m      | 1.9 m    |
| SBAS       | 0.6 m      | 0.8 m    |
| DGNSS      | 0.4 m      | 0.7 m    |

### Velocity accuracy

0.03m/s

### Maximum update rate

|              |        |
|--------------|--------|
| Position     | 100 Hz |
| Measurements | 100 Hz |

### Latency

<10 ms

### Time precision

|                |         |
|----------------|---------|
| xPPS out       | 5 ns    |
| Event accuracy | < 20 ns |

### Time to first fix

|                |          |
|----------------|----------|
| Cold start     | < 45 s   |
| Warm start     | < 20 s   |
| Re-acquisition | avg. 1 s |

### Tracking sensitivity

-154 dBm

### Interfaces

- On-board logging on micro-SD card (max 32 GB)
- Plug compatible with Pixhawk and ArduPilot (Isolated)
- 2 Event markers for camera shutter synchronisation (Isolated)
- Ready to integrate push-button start/stop logging on the SD-card (Isolated)

## PHYSICAL AND ENVIRONMENTAL

### Input voltage

5 –30 VDC  
(Adapter will be provided for 230V AC Supply )

### Weight

< 3 Kg (excluding Antenna)

### Size

1U Standard 19 inch Rack Mountable  
450mm X 350mm X 44mm

### Cooling

Passive cooling

### Chassis

Aluminium

### Antenna

|                         |           |
|-------------------------|-----------|
| Connectors              | 2 x uV#   |
| Antenna supply voltage  | 3-5.5 VDC |
| Maximum antenna current | 150 mA    |
| Antenna gain range      | 15-45 dB  |

### Environment

|                       |                               |
|-----------------------|-------------------------------|
| Operating temperature | -40° C to +85° C              |
| Storage temperature   | -55° C to +85° C              |
| Humidity              | 5% to 95%<br>(non-condensing) |
| Shock & Vibration     | JSS 55555/MIL 810G            |
| Ingress Protection    | IP67                          |
| Max Altitude          | 5000 m                        |

### Certification

RoHS compliant, CE certified,  
EMC MIL-STD-461E/F compliant

### ACCESSORIES

- 2 GNSS Antenna (XT-GNSS-3024-01-00)
- RF Cables Assembly for each Antenna: 5M and 10m LMR200 Cables, TNC Panel Mount Adapter
- 2.5m Data Interface Cable with connectors

### SUPPORTING COMPONENTS

Web UI with full control and monitoring functionality.  
RxTools, a complete and intuitive GUI tool set for receiver control, monitoring, data analysis and conversion.

